Psychological Monographs

General and Applied

No. 454
1958

The Method of Paired Direct and Projective Questionnaires in the Study of Attitude Structure and Socialization

By

J. W. Getzels

University of Chicago

and

J. J. Walsh

Boston College

Price $1.50

Edited by Norman L. Munn

Published by The American Psychological Association, Inc.

Getzels and Walsh

Vol. 72
No. 1

Psychological Monographs:
General and Applied

Combining the *Applied Psychology Monographs* and the *Archives of Psychology* with the *Psychological Monographs*

NORMAN L. MUNN, Editor

Department of Psychology, Bowdoin College
Brunswick, Maine

Consulting Editors

ANNE ANASTASI
FRANK A. BEACH
W. J. BROGDEN
JOHN F. DASHIELL
JAMES J. GIBSON
D. O. HEBB
EDNA HEIDBREDER
FRANCIS W. IRWIN
JAMES J. JENKINS
HAROLD E. JONES
DANIEL KATZ
BOYD MCCANDLESS
DONALD W. MACKINNON
QUINN MCNEMAR
HENRY W. NISSEN
LORRIN A. RIGGS
CARL R. ROGERS
RICHARD L. SOLOMON
ROSS STAGNER

ARTHUR C. HOFFMAN, Managing Editor

HELEN ORR, Circulation Manager

FRANCES H. CLARK, Editorial Assistant

Manuscripts and correspondence on editorial matters should be sent to the Editor. *Psychological Monographs* publishes comprehensive experimental investigations and programmatic studies which do not lend themselves to adequate presentation as journal articles. Major space is given to the author's original contribution; introductory and bibliographic materials, as well as statistical tables and graphs, must be kept within reasonable bounds. Tables, graphs, and appendix materials which deal with detail not essential to adequate presentation of the findings may be made available through the American Documentation Institute—for details of this procedure, see the APA *Publication Manual*. Preparation of manuscripts for publication as monographs should follow the procedure given in the APA *Publication Manual*. Publication in *Psychological Monographs* is free of cost to the author, except in cases where early publication is requested or author's alterations are made in galley proofs.

Correspondence on business matters should be addressed to the American Psychological Association, Inc., 1333 Sixteenth St. N.W., Washington 6, D.C. Address changes must arrive by the 10th of the month to take effect the following month. Undelivered copies resulting from address changes will not be replaced; subscribers should notify the post office that they will guarantee third-class forwarding postage.

COPYRIGHT, 1958, BY THE AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

NOTICE OF ERRATUM

In *Psychological Monograph* Whole No. 448 of Volume 71, the first two entries in Table 6 on page 12 under the column headed "Contingency Coefficient" should be: ".54" (in the row "1 AC"), and ".67" (in the row "24 AC").

Vol. 72, No. 1 Whole No. 454, 1958

Psychological Monographs: General and Applied

The Method of Paired Direct and Projective Questionnaires in the Study of Attitude Structure and Socialization[1]

J. W. GETZELS
University of Chicago
and J. J. WALSH
Boston College

THERE is hardly a systematic position in current behavior theory that does not include some structural concept of *levels* of reaction. These levels have variously been conceived as "private-public" (14), "covert-overt" (4), "latent-manifest" (8), "subconscious-conscious" (5), "genotype-phenotype" (12), and so on. These constructs are not, of course, all of equal generality, but the very pervasiveness of *some* concept of levels points to the crucial significance of the "depth" dimension of reactions in understanding behavior. Systematic penetration into the nature of the relationship between these levels is of critical importance in the study of personality and attitudes.

Research in this area has not, however, been as fruitful as the underlying notions would seem to merit. The difficulty has been, not with the concept of an "internal-external" dimension as such, but with the lack of an efficient technique for determining the "internal" and "external" reactions to the *same stimulus* and for examining the relationship between them. On the one hand, there have been numerous instruments for eliciting the overt levels of behavior—e.g., self-report personality tests, attitude scales, interest inventories, and such; on the other, numerous instruments for eliciting the covert levels—e.g., the Rorschach, TAT, Word-Association, and such. But between the two there has been an unbridged gap. With responses to what direct procedure, for example, are reactions to the Rorschach or the TAT or the Word-Association to be compared; and, conversely, with responses to what projective instrument are replies to the Bell, the Bernreuter, or the Guilford-Martin to be compared?

What is required first of all in this area is a method for eliciting direct and projective responses to the *same* object of inquiry in such way that the responses may be immediately and objectively compared in the *same* terms. The Method of Paired Direct and Projective Questionnaires (PDPQ) was devised to meet the indicated need by combining a widely used projective technique—the Sentence Completion Test—with the usual form of

[1] The preparation of this monograph was facilitated by a grant from the Social Science Research Committee of the University of Chicago. The initial research and the first study were made possible by a grant from the Anti-Defamation League and the Social Relations Laboratory at Harvard University where the senior author held a Livingston Fellowship. The help of Gordon W. Allport, Eugenia Hanfmann, Richard L. Solomon, and Samuel A. Stouffer is gratefully acknowledged. The second study was done at the University of Chicago, and the authors are indebted to Allison Davis and the late Karl J. Holzinger for their invaluable advice and assistance.

direct questionnaire, the two instruments fulfilling the stated requirements.

The current report has two objectives:

1. To describe the rationale, construction, scoring, and interscorer reliability of the PDPQ.

2. To present the results of two studies designed to investigate the usefulness and validity of the method. The first study deals with the nature of the relationship between overt and covert levels of attitude structure as a function of *differential objects of inquiry;* the second study with the nature of the relationships between overt and covert levels of attitude structure as a function of *differential patterns of socialization* represented by the age, sex, sibling position, and social class characteristics of respondents.

The Question-Answer Process and the Method of Paired Direct and Projective Questionnaires

The rationale upon which the method and the studies are based derives from a recent statement of a theory of perception (3), and of the question-answer process elaborated elsewhere by the senior author (7). Central to this theory is the intervening variable: the *personal hypothesis.* The hypothesis may be regarded as an internal state of readiness to react selectively to objects in the environment. The selectivity of perceiving, problem-solving, imagining is said to be governed not only by the objective stimulus but by the personal hypothesis. Answering questions, no less than perceiving and problem solving, must presuppose already established hypotheses or internal sets. If an individual is ready to answer a question at all, he is ready to answer it in a given way. The question serves as a stimulus to trip off this personal hypothesis.

But this is only the *first* step. The personal hypothesis may make itself manifest in a blush, a stammer, a block, a so-called "spontaneous response," or an "impulsive remark," but before it is ordinarily externalized in a verbalization for which the individual is willing to stand responsible, two other factors enter into consideration: the situation of the questioning and the motives of the individual in the situation. Appropriate behavior may require revealing or concealing the personal hypothesis. The *second* step in the question-answer process is the referral of the question-stimulus to the situational context and the checking of the initially aroused personal hypothesis against the requirements of the situation. As the clinician, psychiatrist, and interviewer has learned, what a person says about himself may represent a number of motives. His response to an inquiry may be prompted as much by motives for giving an inaccurate account as for giving an accurate account of his reactions. The *third* step is the formulating of a verbal response—the *expressed reaction*—to the question that will facilitate or at least not hinder the respondent's adjustment in the light of personal needs relative to situational demands. Exposing the private impulse to public view may aid or hinder the subject's adjustment, and the personal hypothesis is liable to defense and censorship—the *expressed reaction* may be a communication or a distortion of the *personal hypothesis.*

It is this relationship between personal hypothesis and expressed reaction or between the covert and overt levels of attitude that is crucial to the present method and series of studies. The experimental hypotheses for empirical test will be derived from this formulation of the question-answer process and will focus upon systematic relationships between these

levels of response, given certain groups of subjects, certain objects of inquiry, and certain situational factors.

The technique of Paired Direct and Projective Questionnaires is advanced as singularly capable of eliciting the kinds of behavior required for the study of the indicated relationships. With respect to a given object of inquiry, it provides a measure of the personal hypothesis, the expressed reaction, and the relative congruence or discrepancy between the two. The method utilizes two instruments of the sentence completion type, one of which, phrased as a self-report questionnaire, is direct in nature, and the other, containing exactly the same items phrased in the third person, is projective in nature.

In responding to the direct instrument, the subject is fully aware that what he says refers to himself, and that a value judgment within some particular frame of reference of which he is also aware may be made on the basis of his responses. The subject may respond with a deliberately invoked standard of what he considers appropriate to himself or to others in the particular setting, and he may distort or censor the original reaction tendencies in order to make his behavior appear consistent with the criteria invoked for the situation. This is not to say that the response to a direct question must inevitably be swayed more by circumstance than by accuracy, or that there will invariably be discrepancies between the manifest response revealed by the direct type instrument and the latent reaction purportedly revealed by the indirect type instrument. The direct response must not be considered a superficial response in the sense that it is not a useful datum or is not valid *at its own level of reaction*. In this study, the position is taken that the response to a direct question represents the level of behavior at which the individual permits society to look at him—it is the *expressed reaction* of the preceding conceptualization of the question-answer process.

In responding to the projective instrument, the subject is unaware that what he says refers to himself, and that a value judgment within a particular frame of reference may be made on the basis of his responses. In the present projective instrument the subject is not required to report his own reaction to a particular stimulus, but—under the guise of a verbal speed test—to attribute to an ambiguous third person a reaction to the same stimulus. The basic assumption is that when a subject is pressed to attribute behavior to others, and he perceives the situation as devoid of personal reference, he tends to reveal levels of behavior he might otherwise be disposed to distort or censor. As Sanford has observed:

> For revealing *underlying* forces the most fruitful procedures are those which require the subject to attribute actions and motives to other people. Faced with this task what comes most readily to the subject's mind are his own feelings, emotions, and attitudes when faced with situations similar to those of the characters presented to him (15, p. 257).

In effect, in responding to a projective instrument, the subject is said to provide a picture of his *personal hypotheses,* as previously defined.

If these assumptions regarding the direct and projective instruments of the PDPQ are sound, then the response to the direct instrument should in fact approximate what has been called the expressed reaction and the response to the projective instrument what has been called the personal hypothesis. The behavior of the direct and projective responses relative to each other for a given object of inquiry should approximate the postulated relationships between the per-

sonal hypotheses and expressed reactions to be derived from the model of the question-answer process for known respondents and known objects of inquiry. Empirical verification of these relationships will provide evidence for the usefulness and validity of the framework and the method, in addition to yielding substantive data regarding the intrapersonal levels of reaction for those aspects of personality and attitudes at issue in the given studies.

The Method of Paired Direct and Projective Questionnaires: Construction of Instruments, Scoring Procedures, and Reliability of Scoring

Constructing the PDPQ entails choosing the objects of research interest (attitudes, behaviors, opinions), inventing situations representing the objects, and writing first and third person incomplete sentence stubs describing the situations in such way that the sentence may readily be completed by manifesting a reaction to each stimulus situation. If, for example, the object of inquiry is *leadership*, the situation might present a choice between accepting or failing to accept a request to be "in charge." The sentence stub in the third person form might be: "When they asked Frank to be in charge, he. . . ." In the first person form the corresponding item would be: "When they asked me to be in charge, I. . . ." Again, if the object of inquiry is attitudes toward the *Negro*, the third person stub might be: "If Negroes began being admitted to the club, Bill. . . ." The first person item would then read: "If Negroes began being admitted to the club, I. . . ."

The third person incomplete sentences are administered *projectively* disguised as a verbal speed test, the respondent being unaware that the responses will be evaluated as attitudes, preferences, sentiments, and such. The response to this instrument represents the personal hypothesis of the model of the question-answer process. After an appropriate time lapse the first person incomplete sentences are administered *directly* as a personal questionnaire, the respondent being aware that the responses will be evaluated as his attitudes, preferences, sentiments, and such. The response to this instrument represents the expressed reaction of the model of the question-answer process.

The items are written so as to conform to three major requirements: First, they must be of such a nature and structure as to facilitate a dichotomous classification of the responses, usually as either positive (socially acceptable) or negative (socially unacceptable). This structuring undoubtedly restricts the range and variety of responses, but since the present studies were concerned only with quantitative comparisons, clinical richness was sacrificed for precision of scoring. Second, the items are to be free of affect-laden words that might exert undue influence on the nature of the response. Thus, words like "good," "bad," "angry," "sad,"—words that might demand uniformly positive or negative responses—are avoided. Third, the items should as far as possible present behavioral situations corresponding to areas identified in theoretical or empirical studies as having differential values for varying subsections of the population.

Although the responses to the instruments lend themselves both to qualitative and quantitative scoring, in the present studies only a quantitative treatment of the data is undertaken. The basic score unit is the negative response, and a subject's score on the projective and

on the direct instrument is the number of negative completions given on each of the instruments. The third metric is the proportion of negative responses to the projective instrument reversed to non-negative responses to the direct instrument, thus providing a measure of the discrepancy between the personal hypotheses and the expressed reactions.

Scoring keys were prepared as aids for consistent and objective scoring. It is, of course, impossible to reproduce the keys here, but several examples will serve to clarify the nature of the responses and the scoring procedures.

A typical item was: "When they asked Frank to be in charge, he. . . ." Typical responses were:

didn't want to.	accepted and tried to do his best.
quit.	was happy.
said no.	accepted with gladness.
said he couldn't.	took over.
worried.	accepted.
wasn't sure.	felt good.
did not want to be.	agreed.
refused.	did his best.
replied he was incapable.	felt honored.
declined.	was pleased.
	liked the idea.

All responses in the left column were scored negative; those in the right hand column, positive.

Another item was: "Working with others all the time made him. . . ." The responses were:

nervous.	happy.
uneasy.	very happy.
feel uncomfortable.	more sociable.
mad.	content.
angry.	easy to get along with.
jumpy.	cooperative.
unhappy.	congenial.
annoyed.	pleasant.
irritable.	sociable.
upset.	more efficient.
sick.	very pleasant.
tired.	feel good.
insignificant.	very agreeable.
a little uneasy.	a very broad-minded person.
leery of his ability.	happy and enthusiastic.

Again, there was little difficulty in scoring the responses on the left as negative and those on the right as positive. The number of indeterminate responses, i.e., those that could not be scored as either negative or positive, varied with the nature of the item. For the instruments as a whole, such indeterminate responses accounted for only a very small fraction of the total number of responses. Actually, these indeterminate responses were of little consequence, since only clearly negative projective and direct responses were utilized in the analyses.

The crucial question regarding a scoring technique of the sort utilized here is the extent to which the scoring is influenced by the subjective judgment of the scorer. This is the problem of interscorer reliability. This problem was investigated by correlating the scores assigned to a random sample of 20 pairs of tests, each test containing 38 items, with the scores assigned to these tests by two other independent scorers. The matrix of these correlations is presented in Table 1. The original scorer is designated as 1, and the two scorers engaged for the reliability study are designated as 2 and 3.

Certainly there can be no dissatisfaction with these interscorer reliabilities. For the process of quantifying essentially qualitative data, these reliability coefficients reflect excellent consistency from one scorer to another. It is amply clear

TABLE 1

INTERSCORER RELIABILITIES FOR PROJECTIVE, DIRECT, AND DISCREPANCY SCORES

Scorer	Score					
	Direct		Projective		Discrepancy	
	1	2	1	2	1	2
2	.977		.959		.905	
3	.982	.974	.955	.954	.945	.914

that objectivity in scoring is not a problem of any considerable magnitude when dealing with the material provided by the PDPQ.

Study I: The Organization of Intrapersonal Levels of Attitude Structure as a Function of Differential Objects of Inquiry

This first study was undertaken to determine whether the PDPQ would provide data confirming certain postulated systematic relationships between the personal hypotheses and the expressed reactions in the area of attitude structure (6).

General Hypotheses

If the question-answer process can be formulated in the three-step sequence—(*a*) the question acts as a stimulus for a personal hypothesis, (*b*) the hypothesis is checked against the situational context of the stimulus, (*c*) the verbalized response may represent the hypothesis or be a distortion of the hypothesis to conform to satisfactory adjustment for the individual in terms of situational requirements—then the following systematic relationships between the nature of the question, the personal hypothesis, and the expressed reaction should be demonstrable:

1. Questions dealing with socially conflicted objects of inquiry should have a relatively large discrepancy between personal hypothesis and expressed reaction.

By socially conflicted objects of inquiry is meant objects for which there are normative social expectations of "right" and "wrong" responses, but the expectations have not been satisfactorily internalized by large sections of the population. For example, the Negro is a socially conflicted object of inquiry. Individuals are aware that they are expected to have an attitude which they may not actually have.

2. Questions dealing with socially neutral objects of inquiry should have a relatively small discrepancy between personal hypothesis and expressed reaction.

By socially neutral objects of inquiry is meant objects for which there are no normative social expectations of "right" and "wrong" responses. For example, the preference for one of two colors is ordinarily a socially neutral object of inquiry.

3. If the personal hypothesis to a socially conflicted object of inquiry is in accord with the situational requirements of the stimulus-situation complex, there should be a relatively small distortion of it in the expressed reaction.

To use the Negro again as an example of a socially conflicted object of inquiry, if the situation of the questioning is a Northern liberal arts college where social expectations are for a positive reaction to the Negro, and the personal hypothesis is positive, the verbalized response will tend to remain positive.

4. If the personal hypothesis to a socially conflicted object of inquiry is not in accord with the situational requirements of the stimulus-situation complex, there should be a relatively large distortion of it in the expressed reaction.

In the foregoing example, if the personal hypothesis is negative, the verbalized response will tend to become positive.

5. If the expressed reaction to a socially conflicted object of inquiry is not in accord with the requirements of the stimulus-situation complex, the personal hypothesis will not be congruent with the requirements of the stimulus-situation complex.

Thus, if the verbalized response to the Negro is negative, the personal hypothesis is negative. If an individual

defies social expectation by admitting to the socially negative reaction, the personal hypothesis is socially negative.

6. If the expressed reaction to a socially conflicted object of inquiry is in accord with the requirements of the stimulus-situation complex, the personal hypothesis may or may not be congruent with the requirements of the stimulus-situation complex.

In the foregoing example, if the verbalized response is positive, the personal hypothesis may or may not be positive. Since there is a social gain in giving the positive socially approved response in this situation, the response may represent a distortion of the internal negative or socially disapproved reaction.

7. A distribution of expressed reactions to a socially conflicted object of inquiry should tend toward a J curve, while a distribution of personal hypotheses to the same object of inquiry should be more symmetrical and approach normality.

The distribution of personal hypotheses conforms to individual differences toward the given object of inquiry; the expressed reactions include distortions of the personal hypotheses to conform to social expectations. The distribution of expressed reactions is representative of the individual differences "squeezed together" in conformity with the norm of expectation (1).

If the PDPQ provides data relevant to the personal hypotheses and the expressed reactions of the model, then the relationships stated here in terms of the question-answer process should hold when restated in terms of differential behavior to the direct and projective instruments. Thus, the relationship stated in hypothesis 4 should be equally applicable when restated as: If the response to a *projective* question regarding a socially conflicted object of inquiry is not in accord with the situational requirements of the stimulus-situation complex, there should be a maximal distortion of it in the response to the *direct* question. And so on for each of the other hypotheses. Clearly, it is only in terms of observable and mensurable test behaviors that the hypothesized relationships can be verified.

Subjects, Instruments, and Procedures

Subjects

The design of the study required a group of subjects in a community having certain recognizable criteria regarding the major experimental objects of inquiry of the investigation, i.e., attitudes toward parents, the self, religion, and minority groups. The college community, at least as represented by what ought to be given the "Records Office," has such criteria. The situational stimuli emanating, however implicitly, from the office tend to remind the student that there are normative "rights" and "wrongs" with respect to parental attitudes, personal adjustment, and social values. Responses to direct questions regarding these objects of inquiry could be expected to move in predictable directions. For purposes of the study, the college student in the college setting was a good subject, and accordingly a class of 48 freshmen and sophomores in a women's college in New England were utilized as the subjects for the experiment.

Instruments

The projective instrument comprised fifty-nine items of the sort previously described. There were three types of items: (*a*) socially conflicted objects of inquiry, (*b*) socially neutral objects of inquiry, and (*c*) "filler" or decoy items. The content of the items was contingent,

of course, on the hypotheses under test. Thus, in addition to intrinsic interest, the 10 Negro items were chosen as a major focus for analysis because they seemed on a priori grounds to represent an unequivocal example of a socially conflicted area of inquiry. In a New England liberal arts college community there are normative standards as to the proper attitudes to express regarding such things as "Negroes moving in next door" or "having a Negro doctor." The public situation of questioning demands a positive reaction to such inquiries. But there is no lack of evidence for the existence of other less public, but no less real, covert feelings to the contrary regarding these same objects.

Similar considerations underlay the choice of personality, religious, and parental objects of inquiry. The expectations are for self-confidence, religious tolerance, and parental respect, and usually these are forthcoming in the public situation. But again there is no lack of evidence of deep-seated unexpressed feelings to the contrary. It was anticipated that these differences between the overt and covert levels would be reflected in the descrepancies between the direct and the projective responses.

Objects of inquiry for which such discrepancies in specific directions might be anticipated could be chosen easily enough on the basis of the conceptual model. However, if a more rigorous test of the theory and the method was to be made, not only was it necessary to demonstrate systematic discrepancy between the levels of reaction, but it was also desirable to demonstrate predictable *lack of discrepancy*, especially if both discrepancy and lack of discrepancy could be shown to rest on firm theoretical ground.

There are two types of items for which such lack of discrepancy could be anticipated. The first represents objects of inquiry which, though controversial, are not socially conflicted. These were the "political" items. There are, to be sure, opinions of "right" and "wrong" regarding political matters, and to this extent these items are not socially neutral as defined in this study. But there is greater latitude for nonconformity regarding these objects than in other areas. Certainly severe sanctions are not as likely to be applied in a college community (at least, not when this study was made) for either a positive or a negative response to a question regarding the desirability of "public ownership" as there might be for a negative response to a question regarding the desirability of religious tolerance.

In addition to this type of controversial but unsanctioned item, a truly socially neutral item was needed. The reasoning behind the construction of such an item involved the following considerations: (*a*) The item had to elicit some emotional reaction so that the response would not be detached or casual; (*b*) The item had to consist of a free choice between two emotionally loaded objects so that the scoring might be unequivocal; (*c*) The objects had to be such that, although emotionally loaded for the respondent, there would be no socially "right" or "wrong" choice—either one would be *right;* the choice is socially neutral; (*d*) On the technical side, the two objects had to consist of the same number of letters since in a free response test where there is an ostensible premium on speed, the shorter word might be written not because it represented the preferred choice but because it could be written faster.

The item which was constructed and used in the study was: "As between mother's and father's ways Liz usually

chose. . . ." This item seems to meet all of the foregoing requirements. The words "mother's" and "father's" are of equal length, and, although the objects are emotionally loaded, they are socially neutral—either one is a perfectly proper model. In contrast to the socially conflicted objects, the discrepancy between personal hypothesis and expressed reaction for this item should be minimal.

In addition to the experimental items there were decoy or filler items to keep the critical items properly spaced. For example, the Negro items—the items which form the crux of the present study—were presented as items 6, 12, 17, 23, 30, 35, 41, 46, 51, and 56. Questions in the other areas were similarly spaced.

The direct instrument contained forty items matching in content forty items from the projective instrument. All the experimental objects of inquiry were included and such other items as were required for fillers. The wording of the stubs of the direct items was similar to the wording of the matched projective items, except of course that the third person was changed to the first person. In changing the stubs from third to first person, some differences in wording the items occurred in the instruments of the first study; in the second study these differences were eliminated.

Procedures

The projective instrument was administered disguised as a verbal speed test. As stimulation for speed, considerable show was made of announcing the time elapsed at regular intervals and of clocking students as they finished. Sixteen days later the direct instrument was administered as a student census questionnaire. Both instruments were administered during regular class hours by the course instructor.

A copy of the instruments and directions for administration are included in Appendix A.

Results

The results are presented with reference to the general hypotheses formulated above. The hypotheses are restated in substantive terms for the specific objects of inquiry used in the instruments, and the findings are summarized to show whether the anticipated relationships between the projective and direct responses obtained.

Hypotheses 1 and 2

Questions dealing with socially conflicted objects of inquiry should have a relatively large discrepancy between projective and direct responses; the direction of change from the projective to the direct response should be toward the normative expectations for the particular object. Questions dealing with socially neutral objects of inquiry should have a relatively small discrepancy between projective and direct responses. Specifically, there should be large discrepancies for the (*a*) parental, (*b*) personal, (*c*) religious, and (*d*) racial tolerance objects of inquiry, and negligible discrepancies for the (*e*) political and (*f*) the specially constructed socially neutral items.

Parents as objects of inquiry. The change to be expected is from personal hypotheses of dissatisfaction (negative projective responses) to expressed reactions of satisfaction (positive direct responses). The data are presented in Table 2. It will be seen that the hypothesized relationships are clearly confirmed, since the discrepancies are large enough to result in significance beyond the .001 probability level.

Personal competence as object of in-

TABLE 2

FREQUENCIES OF NEGATIVE PROJECTIVE AND DIRECT RESPONSES TO ITEMS CONCERNING *Parents*, WITH CHI-SQUARE AND p VALUES FOR DIFFERENCES[a] ($N=48$)

Object of Inquiry	f Projective Negative Responses	f Direct Negative Responses	χ^2	p
Mother (15, 34)	41	15	23.31	$<.001$
Father (8, 40)	37	7	27.03	$<.001$
Total	78	22		

[a] All chi squares in this study were computed by means of formula 86a in reference 13. In this and the succeeding tables, the numbers in parentheses following the specification of the object of inquiry refer to the item numbers on the projective and direct instruments. Thus, the item in which "mother" was the object of inquiry was item 15 on the projective instrument and item 34 on the direct instrument.

quiry. Included in this area were items which elicited reactions to frustration, reactions to undertaking responsibility, attitudes toward others, feelings of optimism-pessimism, and independence-dependence. The change to be expected is from personal hypotheses of incompetence (negative projective responses) to expressed reactions of competence (positive direct responses). The combined data for eight items in this area are presented in Table 3. Seven of the eight items yield chi-square values that are significant beyond the .01 p level. The probability of chance accounting for the difference in response in the expected direction is incalculably small, especially since the one-tailed test of significance is appropriate in combination with the predictions of the direction of the change to be expected. The hypothesized relationships are clearly confirmed.

Religious tolerance as object of inquiry. Three items were originally included in this area. One item proved to be inadequately structured and yielded projective and direct responses of only limited comparability. The other two items gave responses of very high comparability. The relevant projective items were phrased as follows: "When the man running for Mayor admitted he did not

TABLE 3

FREQUENCIES OF NEGATIVE PROJECTIVE AND DIRECT RESPONSES TO EIGHT ITEMS CONCERNING *Personal Competence*, WITH CHI-SQUARE AND p VALUES FOR DIFFERENCES ($N=48$)

Object of Inquiry	f Projective Negative Responses	f Direct Negative Responses	χ^2	p
Thought job too much (4, 1)	30	8	29.03	$<.001$
Others are around (16, 9)	27	6	16.00	$<.001$
Jobs with responsibility (21, 8)	25	8	12.19	$<.001$
Others doing better (29, 24)	33	8	21.33	$<.001$
Do whole thing by oneself (30, 31)	30	6	22.04	$<.001$
Odds are against one (44, 37)	24	9	9.33	$<.01$
Working with others (52, 28)	13	10	.33	—
Not invited to party (55, 25)	40	15	21.33	$<.001$
Total	231	70		

TABLE 4

FREQUENCIES OF NEGATIVE PROJECTIVE AND DIRECT RESPONSES TO ITEMS CONCERNING *Religious Tolerance*, WITH CHI-SQUARE AND p VALUES FOR DIFFERENCES ($N=48$)

Object of Inquiry	f Projective Negative Responses	f Direct Negative Responses	χ^2	p
Not believe in God (26, 13)	32	0	19.36	$<.001$
Belong to different religion (57, 26)	17	0	15.06	$<.001$
Total	49	9		

believe in God, Joan decided . . ." and "When she found out that the candidate belonged to a different religion, Ruth decided. . . ." The change to be expected is from personal hypotheses (projective responses) of intolerance to expressed reactions (direct responses) of tolerance. The data are presented in Table 4 and amply confirm the hypothesized relationship. The difference in response to the two items is noteworthy. Projective responses indicating a negative reaction to a candidate who "did not believe in God" run to about two-thirds of the subjects; to a candidate who "belonged to a different religion" to about one-third. When the same subjects are asked directly, the negative reaction drops to slightly more than one-fifth in the first case, and to zero in the second case.

The Negro as object of inquiry. A sizable discrepancy between projective and direct responses involving the expression of favorable or unfavorable attitudes toward the Negro might be expected. There were 10 items in this area; the data are presented in Table 5.

Inspection of Table 5 indicates that the difference between personal hypothesis and expressed reaction is statistically significant for each of the 10 items focusing on the Negro—a highly conflicted object of inquiry. These striking data clearly conform to the predicted pattern and serve to confirm the hypothesis.

As in the preceding items, the PDPQ reveals some striking differences in atti-

TABLE 5

FREQUENCIES OF NEGATIVE PROJECTIVE AND DIRECT RESPONSES TO ITEMS CONCERNING THE *Negro*, WITH CHI-SQUARE AND p VALUES FOR DIFFERENCES ($N=48$)

Object of Inquiry	f Projective Negative Responses	f Direct Negative Responses	χ^2	p
Residing next to Negro (6, 4)	31	14	11.13	$<.001$
Having Negro forelady (12, 36)	35	9	22.32	$<.001$
Having a Negro doctor (17, 7)	25	11	8.45	$<.01$
Dancing with a Negro (23, 10)	28	16	5.04	$<.05$
Going to school with Negroes (30, 16)	22	11	5.88	$<.02$
Using Negro beauty shop (35, 33)	28	14	10.56	$<.01$
Admitting Negroes to club (41, 39)	29	15	8.45	$<.01$
Hiring many Negroes (46, 19)	27	6	17.30	$<.001$
Working next to Negroes (51, 27)	21	2	19.05	$<.001$
Negro in accident (56, 73)	31	1	28.03	$<.001$
Total	277	99		

TABLE 6

FREQUENCIES OF NEGATIVE PROJECTIVE AND DIRECT RESPONSES TO *Political-Economic* ITEMS, WITH CHI-SQUARE AND p VALUES FOR DIFFERENCES ($N = 48$)

Object of Inquiry	f Projective Negative Responses	f Direct Negative Responses	χ^2	p
Public ownership (53, 22)	20	19	0.00	—
Voting Socialist (24, 11)	26	20	1.13	—
Total	46	39		—

tude structure with respect to the Negro depending on the specific Negro-white interaction that is described. There are, for example, noteworthy variations in the relationship between personal hypothesis and expressed reaction regarding "working next to a Negro" and "residing next to a Negro," between "dancing with a Negro" and "blaming a Negro in an accident." A detailed analysis of these and other substantive findings will be the subject of another report.

Political-economic opinion as object of inquiry. Two items provide data in this area. The expectation was that even with these controversial items there would be lesser change from projective to direct response than with the highly conflicted objects of inquiry. Unpopular political opinions, especially in the college community, are less likely to constitute a personal or social threat than unpopular opinions about religious tolerance or adverse attitudes toward one's family. There is, however, one technical difficulty in this area—or in the wording of the items—in that the questions elicited a great many "don't know" or otherwise unclassifiable answers. Approximately 30% of the responses were of this nature. Nevertheless, discounting these indeterminate responses, there are sufficient data to permit ready interpretation.

The two items in this area were stated: "When she was asked her opinion of public ownership, Kate said . . ." and "When Connie was asked whether she could ever see herself voting Socialist, she said. . . ." Table 6 indicates that there is virtually no change from the projective to the direct responses elicited by the items, and thereby sustains the hypothesized relationship.

Socially neutral choice as object of inquiry. Projective item 34 reads: "As between mother's and father's ways Liz usually chose. . . ." The alternative offered is emotionally loaded, but, whatever the choice, there is no contrary social sanction. The hypothetical expectation was that the discrepancy between the projective and the direct response would be negligible.

The gathering of the data for this section required one variation from the usual procedure. When the direct instrument was administered, many of the subjects responded with "both," "neither," or some such evasion. Only 18 of the 48 subjects responded in such a way as to permit study of the congruence or disparity of the direct and projective responses. The data for these 18 cases confirmed the hypothesis of no change. However, the meagerness of this sample indicated the desirability of additional data. Hence, the open-ended direct item was changed to a multiple-choice form where

the subjects could not give a neutral response, but were forced to give preference to either mother or father. The direct multiple-choice item was: "As between mother's and father's way, I choose (*a*) practically always mother's, (*b*) usually mother's, although sometimes father's, (*c*) practically always father's, (*d*) usually father's, although sometimes mother's." In addition, it was also decided to include a sample of 32 male college students. The projective item for males read: "As between mother's and father's ways, Carl usually chose. . . ." The direct item was the same for both males and females. Table 7 presents the relevant data.

The chi-square values reported in Table 7 are clearly not significant, and the data may thus be interpreted as indicating that when the object of inquiry is socially neutral there is no significant difference between the personal hypothesis and the expressed reaction. The hypothesis that the discrepancy between projective and direct responses should be relatively small is clearly confirmed.

Hypotheses 3, 4, 5, and 6

The preceding section explored the general relationship between projective and direct responses as the content of the question is changed. It was shown that the relationship is systematic: the discrepancy between responses will be large when the content of the question is socially conflicted and small when socially neutral.

The present section will explore the behavior of projective and direct responses to a socially conflicted object of inquiry—the Negro—focusing on the dynamics of the discrepancy between the levels revealed by the two instruments.

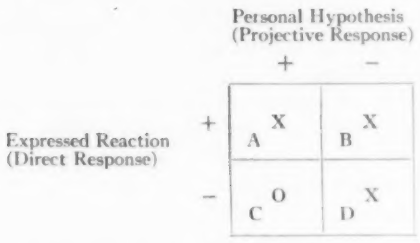
The hypothesized relationships may be represented in the following fourfold table, where a plus (+) stands for a response in accordance with social expectations (a positive or at least a non-negative response to a Negro item) and a minus (−) for a response not in accord with social expectations (a negative response hostile to the Negro). The prediction from the hypothesized relationships is that the lower left-hand cell (C) should have the smallest number of frequencies —ideally, none. That is, no projective positive responses should be distorted to direct negative responses, no direct negative responses should be distortions of projective positive responses. In other terms, if the personal hypothesis is unprejudiced there is no reason for a respondent—under the conditions of this

TABLE 7

COMPARISON OF PROJECTIVE AND DIRECT RESPONSES TO ITEM CONCERNING PREFERENCE FOR MOTHER'S OR FATHER'S WAYS, FOR MALE, FEMALE, AND TOTAL SAMPLES, WITH CHI-SQUARE VALUE FOR THE CHANGE BETWEEN RESPONSES

		Females Projective		Males Projective		Total Projective	
		Father	Mother	Father	Mother	Father	Mother
Direct	F	7	4	18	1	25	5
	M	3	26	4	9	7	35
		$\chi^2 = 0.00$		$\chi^2 = 0.80$		$\chi^2 = 0.08$	

investigation—to change to a prejudiced expressed reaction.



Actually, of course, there were many more responses in cells A and B than in C and D. In all, negative direct responses to the 10 items totaled 99, about 20%, while negative projective responses totaled 277, or about 58%. But if the postulated relationships hold, then there should be fewer responses in cell C than in any of the others, including cell D. Table 8 presents the data for this phase of the study.

These data confirm the predicted relationships. Projective positive responses only rarely (about 10% of the cases) were distorted to direct negative responses. Projective negative responses were frequently (72% of the cases) distorted to direct positive responses. A direct positive response may or may not coincide with the subject's projective response—there were 48% such agreements. A direct negative response frequently coincided with the subject's projective response—there were 78% such agreements. This analysis of the data supports the hypotheses and indicates that the direct and projective responses behave quite like the personal hypotheses and expressed reactions would be expected to change, and as one would expect public and private attitudes to vary.

TABLE 8

RELATIONSHIP BETWEEN NEGATIVE AND POSITIVE DIRECT AND PROJECTIVE RESPONSES TO 10 NEGRO ITEMS
(N=48)

		Projective +	Projective −	
Direct	+	A 182	B 199	381
	−	C 21	D 78	99
		203	277	480

Hypothesis 7

The final hypothesis to be examined in this phase of the investigation postulated that the distribution of personal hypotheses should reflect individual differences in private attitudes toward the given object of inquiry, while the distribution of expressed reactions should represent a distortion in terms of closer conformity to social expectations. Hence, it was expected that the distribution of negative projective scores to a socially conflicted object of inquiry should approximate normality, but that the distribution of negative direct scores should tend toward a J curve.

For this section of the study subjects were assigned scores in terms of the number of negative responses to the 10 projective items and the corresponding 10 direct items which deal with the Negro. The graphic representation of the projective and direct distributions is presented in Fig. 1.

Inspection of the modal values and spread of scores in these two distributions suggests the appropriateness of the hypotheses advanced. The modal score of the projective test distribution is 7, and the frequencies are distributed in generally decreasing order toward the extreme score values of 0 and 10. In contrast, the modal score of the direct test distribution is 0, and the frequencies

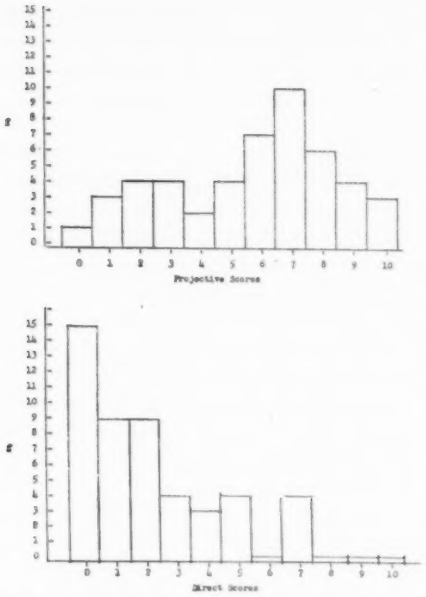


FIG. 1. Distribution of Projective and Direct Scores on 10 Negro Items. ($N = 48$)

diminish as the score values increase. This is the general pattern of the J curve and the data are therefore interpreted as confirming the hypothesized relationships.

STUDY II: THE ORGANIZATION OF INTRAPERSONAL LEVELS OF ATTITUDE STRUCTURE AS A FUNCTION OF DIFFERENTIAL PATTERNS OF SOCIALIZATION

The first study provides clear evidence that the method of Paired Direct and Projective Questionnaires can profitably be applied to the systematic investigation of overt and covert levels of attitude structure. Can the method also be applied profitably to the investigation of variations in the development of these levels of attitude as a function of such factors as age, sex, sibling position, and social class status? This is the problem under consideration in the second study, and it is explored within the general framework of the concept of socialization (16).

Socialization is conceived here as a twofold process. On the one hand, the child learns to renounce, suppress, or redirect drives and behavioral impulses that are at variance with proper social standards. On the other, he learns to bring his observed behavior into conformity with the norms and expectations of the society in which he lives. It is a process by which the "persona" is differentiated from the "self," and the overt response from the covert impulse. The infant inhibits impulse but little; the adult a great deal. This is not to say that socialization involves the complete elimination of unacceptable behavioral tendencies. The socialized child has not so much eradicated forbidden inclinations as learned to restrain their manifest expression. He has learned, in Allport's terms, that "in everyday life it is often necessary to mask the true self, to present to the world the appearance of conventional fitness" (2, p. 39). It is during the period of socialization that the distinctive individual patterns of articulation between these covert and overt levels of attitude are established. Indeed, from this point of view, socialization may be defined as the successive differentiation and organization of intrapersonal levels of reaction.

So considered, the process of socialization must be studied in terms of three major concepts: (*a*) covert behavior, or the *personal hypothesis* of the *levels* model; (*b*) overt behavior, or the *expressed reaction* of the model; and (*c*) the congruence or discrepancy between the two, or as it is referred to in the context of this phase of the study, the *Index of Differentiation*.

The PDPQ produces the three measures needed to study socialization within this framework. With respect to any object of inquiry it provides: First, a measure of the covert attitude, contained in the personal hypothesis elicited by the projective instrument; second, a measure of the overt attitude, contained in the expressed reaction elicited by the direct instrument; and finally, a measure of the discrepancy between the two, and this is the third and crucial metric, the Index of Differentiation (ID).

If the conceptual framework is tenable and if the method does in fact provide the necessary measures, then the following major relationships between the covert and overt levels of attitude structure as reflected by systematic variations in the ID for different age, sex, sibling position, and social class groups should be observed.

General Hypotheses

1. The mean Index of Differentiation should increase as a direct function of age. Socialization is a process in time, and individuals—in this case, children of school age—subjected to socializing pressures for longer periods should have greater ID scores than those under such pressure for lesser periods.

2. The mean Index of Differentiation should be greater for girls than for boys in the same age group. The greater social conformity and maturity of girls over boys during the years adjacent to the pubertal period is a well documented finding of developmental psychology, and this should be reflected in the ID metric.

3. The mean Index of Differentiation should be greater for the only child in a family than for the oldest of three children, which should in turn be greater than for the youngest of three children in a family. There is evidence from developmental studies for this relationship (11), and if the concepts and methods are sound, then the indicated relationship should be reflected in the respective ID scores.

4. Finally, the mean Index of Differentiation should be significantly different for children of the higher or middle socioeconomic classes than for children of the lower class. Numerous studies show the varying pressures for inhibition of impulse and for conformity to distinct standards required of children in the different socioeconomic classes. Again, if the conceptual structure and method are sound, these differences should be reflected in the ID metric.[2]

Subjects, Instruments, Procedures, and Methods of Analysis

Subjects

Eight schools participated in the present study. Two of these schools are public elementary schools in a lower-middle-class industrial suburb of Chicago. The third school is a private, nonsectarian school for boys located on the south side of the city of Chicago. Typically, the fathers of boys attending this school are professional or business men. The fourth

[2] The key used in scoring the instruments of this study undoubtedly reflects middle-class norms. Theoretically, this constitutes a "bias" in favor of the subjects representing the same social class. However, the test of the technique requires that all subjects be judged by the same standard. This is so because the critical question in this phase of the study asks whether or not the technique is adequate for the detection of *differences* in the behavioral patterns of different social classes. Obviously these differences can manifest themselves only if the same criterion is applied to all subjects. Different scoring keys for different social classes could provide valuable information relating to differences *within* these classes, but this should hardly be attempted until the technique has proven its worth in terms of the differences *between* social classes. It is on this latter problem that the present investigation focuses.

school is a private, nonsectarian school for girls, serving the same social class as the private school for boys. Three of the schools included in the sample are Catholic parochial schools, all located on Chicago's south side. One of these schools is situated in what is considered to be one of the most desirable residential areas, and most of the children attending this school are from families in the professional class. The second parochial school is located in a transition area, and until two years prior to the testing for this study was attended typically by white children from lower-middle-class families. At the time of testing this school was composed of approximately equal numbers of white and Negro children. The third parochial school is located in a slum and federal housing project area, and approximately 95% of the children attending this school are Negro. The final school included in the sample is a Lutheran parochial school located in a middle-class suburban residential community west of Chicago.

Since the experimental method presupposes a knowledge of reading and writing, it was deemed unsuited to children below the third grade level. Hence, the third grade was chosen as the lower limit and the sampling was made in such a way as to have the greatest representation over the age range 8 to 13. Table 9 presents a breakdown of the sample according to age and sex.

TABLE 9
DESCRIPTION OF SAMPLE

Age	Boy	Girl	Total
8	70	63	133
9	78	88	166
10	76	98	174
11	66	72	138
12	64	73	137
13	74	91	165
Total	428	485	913

Negro children constitute 11% of the sample, and the sample is divided according to religious preference as follows: Catholic, 42%; Jewish, 6%; Protestant, 47%; and 5% of the sample admit no religious affiliation.

Instruments

Three areas of research interest were chosen for inclusion in the instruments employed in this phase of the study. The first area may be described as the *family* area, and the items in this area pose situations designed to elicit attitudes toward parents and siblings. The second area is called the *personal* area, and these items were constructed to obtain reactions to situations dealing with self-confidence, frustration, relationships with members of the opposite sex, and general value orientations. The *social* area was the third area included in these instruments, and the items here relate to such things as attitudes toward racial and religious groups.

In all, four instruments were employed in this phase of the study. These tests are designated as Form B, Form G, Form IB, and Form IG. Forms B and G are the projective tests for boys and girls respectively. These forms differ in the names that are used in the third person references, but the substance of the items in the tests is identical. Thus, in Form B, item 9 reads: "Don sometimes thinks his family. . . ." In Form G the item is phrased: "Dot sometimes thinks her family. . . ." Forms IB and IG are the direct forms of the test, in which the items are phrased in the first person. The use of two direct instruments was necessitated by the inclusion of item situations referring to members of the opposite sex. Thus, for example, item 11 in Form IB is phrased: "If I had to work with girls

all the time, I. . . ." In Form IG the item takes the form: "If I had to work with boys all the time, I. . . ."

Each of the four forms of the test consists of 40 incomplete sentences, with the items being presented in the same numerical order in all of the instruments. However, only items 3 through 40 are actually scored in the present study; items 1 and 2 were designed to serve as innocuous practice items although they were not explicitly labeled as such. Copies of the instruments and directions for administration are included in Appendix B.

Procedures

The projective instrument was administered first, and the direct test was administered after a two-week interval. At the end of the second test session the children completed a personal data sheet which provided data concerning age, sibling position, and other variables needed in the analysis of the data.

Analyses

The status variable chosen for use in the study was the socioeconomic factor of occupation of parent, and consequently the analyses to be reported should not be interpreted as standing in perfect relationship to the more rigorous conception of social class. Direct correspondence of occupational groups and the various social classes simply does not obtain, and hence in this study comparisons will be between socioeconomic groups (as identified by occupational groupings), rather than between social classes as otherwise defined. Data provided by Warner (17, p. 165) indicate that of a total of 110 people classified in the top three occupational groups, 109 were in the middle or upper class. On the other hand, 69 out of 98 people classified in occupational groups 4 through 7 were in the lower class. These data suggest that pooling the first three occupational groups establishes the bounds for the upper and middle classes, while a combination of the last four occupational classes roughly delimits the lower social class. This dichotomy has been utilized in the analyses to be presented, and although references in the text will be to the high and low socioeconomic groups, the reader may—within the limits of error indicated above—equate these to the middle and lower social classes.

The instruments were scored in terms of a positive-negative dichotomy, as in the preceding study. Each subject was assigned three scores. The projective score and the direct score represent the number of negative completions on those instruments. The third metric—the Index of Differentiation—represents a proportion. This Index has been defined as the proportion of negative responses on the projective instrument which is reversed to positive responses on the direct form of the test. In a pilot study a comparison was made of the advantages of computing this proportion in terms of item-by-item reversal, or merely in terms of the difference between the projective score and the direct score. The correlation between the Indexes computed by these two different methods was found to be .97. The method based on the difference between the two scores is considerably more economical of time than the item-by-item method, and hence was adopted for use in the present study. The computational procedure for this Index is expressed by the formula

$$ID = \frac{P - D}{P}$$

where P represents the score on the

projective test, and D the score on the direct test.

The variables of sex, age, birth rank, and socioeconomic status were the dimensions used in analyzing the three sets of scores. The problem of controlling variables becomes crucial when it is desired to assess the influence of each of these variables with the others held constant. Under the conditions of sampling which characterized this study, complete experimental control of the variables was impossible. Hence, statistical control, as exemplified by the covariance technique, was used. However, when dealing with discrete variables such as sex it was also necessary to achieve control in terms of the subjects selected for inclusion in some of the subsamples on which the analyses were based. Consequently, some of the analyses to be reported are based upon the data derived from the total sample, while others are based upon randomly selected subsamples of the total group.

Results

The findings of this study are presented in terms of the four major hypotheses advanced above. These hypotheses are oriented around the Index of Differentiation, since it is the critical metric in this phase of the investigation. In a sense, the Index represents an attempt to express the extent of socialization in objective terms by indicating the proportion of asocial covert behavioral tendencies which are censored and denied expression at the overt level. It summarizes the relationships existing between the personal hypotheses and expressed reactions, and its value transcends the worth of the separate measures which —when used conjointly—serve as the means for its calculation. Hypotheses relating to the Index of Differentiation constitute the most rigorous test of the PDPQ, since verification of these hypotheses involves, at the same time, the fulfillment of certain inflexible relationships between the direct and projective responses. Accordingly, in interpreting the data of the study, emphasis will be placed on the hypothesized patterns of the ID scores. However, data for the other two metrics will also be presented, chiefly for the purpose of indicating the nature and direction of the discrepancies summarized in the ID scores.

TABLE 10

MEAN ID SCORES FOR AGE GROUPS

Age	*N*	Mean ID	
8	133	29.02	29.00
9	166	28.98	
10	174	36.91	37.87
11	138	39.08	
12	137	41.01	40.87
13	165	40.76	

Hypothesis 1

The mean Index of Differentiation should increase as a direct function of age.

Table 10 presents the mean ID scores for the different age levels, in both one-year and two-year groupings.

It is readily apparent that the over-all increase from age 8 to age 13 is of considerable magnitude and in the predicted direction. The presentation of the data in the form of one-year age intervals is adopted in the interest of convenience and completeness. It is not necessitated by the hypothesis under test, since the hypothesis referred to the totality of the distribution and the over-all trend, rather than to the discrete arbitrary segments represented by one-year age classes. When the data are grouped in two-year

TABLE 11

MEAN PROJECTIVE AND DIRECT SCORES FOR AGE GROUPS

Age	*N*	Projective	Direct
8	133	18.04	13.23
9	166	17.33	12.40
10	174	18.62	11.71
11	138	18.73	11.12
12	137	18.83	10.99
13	165	18.73	10.83

intervals, the progression is striking and unmistakably in conformity with the hypothesis, and the analysis of variance yields an F of 8.14 (p beyond the .01 level).[3]

The ID metric summarizes the relationship between the personal hypotheses and expressed reactions for children of different ages, but it does not reveal the dynamics of that relationship. It cannot be determined, for example, whether the larger ID scores for older children are produced by an increase in projective scores coupled with stability in direct scores, or by an increase in direct scores accompanied by no change in projective scores, or by decrease in one variable combined with increase in the other. The nature of the relationship can be understood by referring to the distributions of the direct and projective scores which are the basis of the Index of Differentiation. Table 11 presents the necessary data.

It is clear that the projective scores manifest a high degree of stability—the difference in mean projective scores for 8-year-old children and 13-year-old children is only .69. The direct scores, on the other hand, reflect a pattern of gradual but consistent decrease from one age to the next higher age. The increase in ID as a function of age results, therefore, from the covert reactions remaining relatively stable while the overt reactions move systematically in the direction of greater social conformity.

This finding appears to warrant the interpretation that the so-called "private" levels of reaction are not subject to any real modification over the given age range as a result of the learning experiences subsumed under the concept of socialization, at least not with respect to the objects of inquiry represented in the present instrument. The learning that goes on is reflected instead in changes at the "public" levels of reaction. The child learns to inhibit existing socially disapproved personal hypotheses, but these do not thereby cease to exist. They are only overlaid with socially approved expressed reactions.

Hypothesis 2

The mean Index of Differentiation should be greater for girls than for boys.

The relevant data are summarized in Table 12. It will be noted that the data here are based on 884 cases instead of the 1,033 cases used for the age group variable. In analyzing the sex group data it

[3] Since ID scores are expressed as proportions, it was necessary to utilize a transformation in order to make these scores amenable to valid analysis by the F-ratio technique. Consequently, the ID scores were processed by means of the arcsine transformation, and the analyses of ID scores have been made on the basis of these transformed values (10, p. 594). The L_1 test of homogeneity of variance was made for all analyses of variance reported in this study.

With respect to the age hypothesis under test here, we ought perhaps to add that, at this point, in order to examine any possible confounding of the age and sex variables which might have been introduced by the slightly unequal division of boys and girls in the several age intervals of the original sample, a second analysis of the ID scores was made. In this second analysis, 421 boys and 421 girls were randomly selected by age groups from the parent sample and divided equally by sex at each age level. The analysis of ID scores for this sample resulted in an F of 7.92 (p beyond the .01 level), thus confirming the original analysis.

TABLE 12

MEAN INDEX OF DIFFERENTIATION, PROJECTIVE, AND DIRECT SCORES FOR SEX GROUPS

Metric	Sex Group		F	p
	Boys	Girls		
ID	32.18	39.43	8.23	$<.01$
Projective	19.15	17.67	16.44	$<.01$
Direct	12.63	10.85	25.00	$<.01$
N	428	456		

was desirable to include a test of the significance of the interaction between the sex and the age variables. Such a test required that the analysis of variance be made on the basis of a twofold classification. Unequal numbers of cases in each of the categories poses no problem in a onefold classification as employed with the age data, but does represent complications for higher order classifications. The difficulty can be overcome by taking equal numbers of random samples for each group, but in such procedure a considerable amount of the available data is usually eliminated. To obviate this problem it was decided to utilize an approximation method of analysis of variance for unequal frequencies in the subclasses of two classifications as presented by Johnson (9, p. 261). Although this procedure involved the elimination of some of the cases, the loss was considerably less than would have resulted by taking equal random samples for each group.

The twofold analysis of variance design provided a test of the significance of the means and a measure of the interaction between age and sex for each of the three metrics. The three interactions proved insignificant. The difference between the ID scores of the boys and girls was significant, and in the predicted direction. The second hypothesis is substantiated by the data of the study. Clearly, the discrepancy between the personal hypotheses and expressed reactions is greater for girls than for boys between the ages of 8 and 13.

It is important to note that, although the mean ID score is greater for girls than for boys, the reverse relationship is true for the direct and the projective scores. That is, although the asocial private and the asocial public attitudes are greater for boys than for girls, the *proportional change* from the socially unapproved personal hypothesis to the socially approved expressed reaction is greater for girls than for boys.

Synthesizing these findings with those from the age relationships, it appears that while there are substantially more asocial behavioral tendencies in the private worlds of boys than of girls, within the same sex group the number of these tendencies does not undergo change but remains surprisingly stable over the years 8 through 13. This implies that, by the time the child has reached the age of 8, he has already acquired a set of personal hypotheses which are typed on the basis of sex and which are not subject to alteration during the next five years. The expressed reactions do undergo consistent modification in the direction of greater social acceptability as a function of age. However, the extent of modification varies for boys and girls, with girls significantly more compliant to social expectations. As has already been pointed out, the proportion of change from socially unacceptable covert responses to socially acceptable overt responses is greater for girls than for boys, and to this extent, of course, girls may be said to be "more socialized" than boys of the same age group.

Hypothesis 3

The mean Index of Differentiation should be greater for the only child than

TABLE 13

MEAN INDEX OF DIFFERENTIATION, PROJECTIVE, AND DIRECT SCORES FOR BIRTH RANK GROUPS

Metric	Birth Rank Groups			F	p
	1/1	1/3	3/3		
ID	40.61	37.21	36.87	3.06	$<.05$
Projective	19.40	18.80	18.89	1.09	$>.05$
Direct	10.89	11.58	11.79	1.72	$>.05$
N	88	88	55		

for the oldest of three children, which should in turn be greater than for the youngest of three children.

The data yielded by the technique are again in agreement with the hypothesized relationships. Table 13 summarizes these data. The Index of Differentiation shows systematic and significant variation for the sibling positions as expected from socialization theory and relevant developmental studies.

The data of Table 13 provide an important illustration of the merit of the technique under test. It must be noted that if only the projective instrument had been employed, the conclusion would be that no significant relationship existed for the sibling position variable. Similarly, if only the direct instrument had been employed, the null hypothesis would have been accepted for this variable. But when both instruments are used conjointly and a metric developed to express the relationship existing between the two scores, this third metric—which is the core of the technique under study—does indicate the existence of a significant relationship.

Hypothesis 4

The mean Index of Differentiation should be significantly different for children of the higher or middle socioeconomic classes than for children of the lower classes.

The data presented for Hypotheses A and B indicated the existence of significant ID differences as functions of age and sex. In seeking to determine the influence of the socioeconomic class variable on the metrics of the study, it became necessary to control the age and sex factors. The age factor, representing a continuous variable, may be controlled statistically by the analysis of covariance technique, and this procedure was adopted. However, sex is a discrete variable and does not lend itself to control by the covariance method. Control of the sex factor was achieved experimentally by using separate samples of boys and girls and doing separate covariance analyses for each sample. These analyses are based on the scores of randomly selected subsamples of 30 cases each for boys and girls for each of the two socioeconomic groups. In order to achieve greater precision for the test of the hypothesis relating to socioeconomic class, the factor of intelligence was held constant by the covariance technique. The analyses are summarized in Table 14.

The data indicate that for both boys and girls significant differences in mean ID scores are obtained for subjects of different socioeconomic classes. The hypothesis is confirmed. The extent to which boys and girls, with age and IQ constant, tend to inhibit their socially unacceptable personal hypotheses is

TABLE 14

MEAN INDEX OF DIFFERENTIATION, PROJECTIVE, AND DIRECT SCORES FOR BOYS AND GIRLS OF TWO SOCIOECONOMIC CLASSES

Sex	Metric	Socioeconomic Class		F	p
		High	Low		
Boys					
	ID	49.80	31.60	5.15	$<.05$
N High = 30	Projective	18.33	18.13	3.82	$>.05$
N Low = 30	Direct	9.17	12.70	4.48	$<.05$
Girls					
	ID	37.97	44.20	4.04	$<.05$
N High = 30	Projective	16.53	18.00	1.52	$>.05$
N Low = 30	Direct	10.27	10.10	—	—

clearly a function of the socioeconomic class membership of the children.

It is worthy of special note that the pattern of socialization is different not only for the socioeconomic classes under study, but differs significantly for boys and for girls within the two socioeconomic groups. The mean ID score for boys of the high status group is over 18 points greater than the mean ID score for boys in the low group. This large discrepancy in ID score corresponds to the frequent observation that lower status boys consider the higher status boys "sissies," and the latter in turn consider the former "toughs." The pattern for girls is the reverse. Girls in the low status group change 44% of their asocial personal hypotheses, while the high status girls change 38%. That is, while for boys the ID score of the "highs" is greater than that of the "lows," for girls the ID score for "lows" is greater than that of the "highs," although the difference is not by any means as large for the girls as for the boys. The finding with respect to girls is again consistent with previously reported observations and theoretical considerations. Girls of all classes at the age group under study tend to approximate adult standards of behavior more closely than do boys, and this is especially so at the lower status levels.

SUMMARY AND CONCLUSIONS

There are several lines of cleavage in the evolution of current psychological techniques. In the conceptual realm, the cleavage has been between mechanistic and dynamic models of human behavior; in the substantive realm, between recording observed habits and eliciting underlying motives; in the methodological realm, between asking direct questions and posing projective stimuli. These cleavages are reflected in the diversity of direct and projective instruments brought to bear on both clinical and research problems—instruments that frequently provide a variety of data without any conceptual, substantive, or methodological common denominator.

MacKinnon has summarized the situation as follows:

> And so it is that we have had traditionally two kinds of diagnostic tests—on the one hand, tests that reveal (of course, with a large probable error) what a person has done, how he has felt, or now feels, what he has thought or now thinks, in short, the person as a phenotype; and on the other hand, tests that reveal what we have been wont to call the underlying dynamics of the person, in other words, the person as a genotype. But between the two there has been a tremendous gulf to be bridged. . . . We have not yet discovered the formula which will permit us to move from one to the other (12, p. 7).

The method of Paired Direct and Pro-

jective Questionnaires (PDPQ) is proposed as a fruitful technique for bridging the indicated gulf. Analysis suggests that the "formula" must include two essential elements. Theoretically, it must be based on a conceptual framework capable of relating in a psychologically meaningful way the data furnished by the two classes of instruments. Formulation of the question-answer process in terms of *levels* of personality provides such a framework by permitting the response to a direct question to be viewed as emanating from the overt level of behavior, and the response to a projective question as emanating from the covert level of behavior. One is the *expressed reaction,* the other the *personal hypothesis* of the question-answer process, the two levels of response being related in systematic and empirically testable ways. Methodologically, the formula must include a technique that yields direct and projective responses with respect to the *same* objects of inquiry in *comparable* terms so that the theoretically postulated relationships between expressed reactions and personal hypotheses can be plotted.

The PDPQ meets both these requirements. Theoretically, it is based on a formulation of the question-answer process in terms of levels of intrapersonal behavior, and certain invariant relationships between the levels are derived from the formulation. Methodologically, it makes use of directly and projectively stated sentence-completion-type questions in such way that the responses provide direct and projective data to the same objects of inquiry in readily comparable terms.

Two complementary studies were designed to test the applicability of the PDPQ, one dealing with the relationship between intrapersonal levels of attitude structure as a function of *variations in the objects of inquiry,* the other with the relationship between intrapersonal levels of attitude structure as a function of *variations in socialization* represented by the age, sex, sibling position, and social class variables. In each study certain relationships between the personal hypotheses and the expressed reactions were postulated on the basis of current attitude and socialization theory, and the proof of the PDPQ was predicated on whether the obtained direct and projective responses would conform to these relationships.

Specifically, the first study applied the PDPQ to testing seven postulated relationships, falling into the following three general areas:

1. Questions dealing with socially conflicted objects of inquiry should have relatively large discrepancies between the personal hypothesis (projective response) and the expressed reaction (direct response); the direction of change from the personal hypothesis to the expressed reaction should be toward the normative standard of responses for the particular object. Questions dealing with socially neutral objects of inquiry should have relatively small discrepancies between the personal hypotheses and the expressed reactions.

2. If the personal hypothesis to a socially conflicted object of inquiry is in accord with the requirements of the situation, there should be a relatively small distortion of it in the expressed reaction. If the personal hypothesis to the same object of inquiry is not in accord with the requirements of the situation, there should be a relatively large distortion of it in the expressed reaction. Conversely, if the expressed reaction to a socially conflicted object of inquiry is not in accord with the requirements of the situation, the personal hypothesis will not be in

accord with the requirements. If the expressed reaction to the same object of inquiry is in accord with the requirements of the situation, the personal hypothesis may or may not be in accord with the requirements.

3. A distribution of expressed reactions to a socially conflicted object of inquiry should tend toward a J curve, while a distribution of personal hypotheses to the same object of inquiry should be more symmetrical and approach normality.

The second study employed the two major concepts of the first study, i.e., the personal hypothesis as represented by the projective response and the expressed reaction as represented by the direct response, and developed a third metric, the *Index of Differentiation*. This Index is a measure of the magnitude of the discrepancy between the personal hypothesis and the expressed reaction, and in a sense represents the extent of socialization. The following four hypotheses with respect to variations in the Index of Differentiation as a function of the age, sex, sibling position, and social class status for children 8 to 13 years old were tested:

1. The mean Index of Differentiation should increase as a direct function of age.

2. The mean Index of Differentiation should be greater for girls than for boys in the same age group.

3. The mean Index of Differentiation should be greater for the only child than for children with siblings.

4. The mean Index of Differentiation for children of the higher or middle socioeconomic classes should be significantly different from that of the lower socioeconomic classes.

The hypothesized relationships of both studies were confirmed without exception, and in the larger proportion of cases at very high levels of confidence. This congruence between the empirical data provided by the PDPQ and the predicted relationships derived from attitude and socialization theory attests to the usefulness of the technique.

Although the PDPQ is surely not the ultimate formula for moving from one level of intrapersonal reaction to another as represented empirically by responses to direct and projective instruments, it does bridge part of the gulf, and thus offers the means of exploring behavioral relationships largely neglected for want of an appropriate method. If the first stage in instrument-making centered on the direct instrument, and the second on the projective one, the PDPQ may very well be considered a third stage by centering on an integration of the first two. In this sense, the PDPQ may be looked upon as a further developmental step in the evolution of objective techniques for the systematic study of human behavior, or at least as pointing to a promising direction for such step.

REFERENCES

1. ALLPORT, F. H. The J-curve hypothesis of conforming behavior. *J. soc. Psychol.*, 1934, **5**, 141–183.
2. ALLPORT, G. W. *Personality: A psychological interpretation*. New York: Holt, 1937.
3. BRUNER, J. S. Personality dynamics and the process of perceiving. In R. R. Blake and G. V. Ramsey (Eds.), *Perception: An approach to personality*. New York: Ronald, 1951.
4. CAMPBELL, D. T. The indirect assessment of attitudes. *Psychol. Bull.*, 1950, **47**, 15–38.
5. FREUD, S. *A general introduction to psychoanalysis*. New York: Garden City, 1943.
6. GETZELS, J. W. The assessment of personality and prejudice by the method of paired di-

rect and projective questionnaires. Unpublished doctoral dissertation, Harvard Univer., 1951.
7. GETZELS, J. W. The question-answer process: a conceptualization and some derived hypotheses for empirical examination. *Publ. Opin. Quart.*, 1954, **18**, 80–91.
8. HANFMANN, E., & GETZELS, J. W. Studies of the sentence completion test: I. *J. proj. Tech.*, 1953, **17**, 280–294.
9. JOHNSON, P. O. *Statistical methods in research*. New York: Prentice-Hall, 1949.
10. KELLEY, T. L. *Fundamentals of statistics*. Cambridge: Harvard Univer. Press, 1947.
11. MACFARLANE, J. W. Study of personality development. In R. G. Barker, J. S. Kounin, and H. F. Wright (Eds.), *Child behavior and development*. New York: McGraw-Hill, 1943.
12. MACKINNON, D. W. Psychodiagnosis in clinical practice and personality theory. *J. abnorm. soc. Psychol.*, 1949, **44**, 7–13.
13. MCNEMAR, Q. *Psychological statistics*. New York: Wiley, 1949.
14. ROSENZWEIG, S. Levels of behavior in psychodiagnosis with special reference to the picture frustration study. *Amer. J. Orthopsychiat.*, 1938, **8**, 622–626.
15. SANFORD, R. N., ET AL. Physique, personality, and scholarship: a cooperative study of school children. *Monogr. Soc. Res. Child Developm.*, 1943, **8**, No. 1.
16. WALSH, J. J. The technique of paired projective and direct sentence completion tests applied to the study of socialization. Unpublished doctoral dissertation, Univer. of Chicago, 1953.
17. WARNER, W. L. *Social class in America*. Chicago: Science Research Ass., 1949.

(Accepted for publication October 8, 1956)

Appendix A

INSTRUMENTS USED IN STUDY I

The Merrill-Brown Verbal Intelligence Test

Form 11F

Name: .....

Age: .....

Education: .....

Occupation: .....

Date: .....

This is a test of how fast you can think. Complete each of the following sentences so that it makes the best sense possible. You may use either a word or a phrase, although a phrase is preferable. Since you will have only a limited time, work quickly. In most cases the best way to answer the test is to put down the first thing that comes to your mind.

Example:
The unfinished sentence: "When Ann scored the goal, she . . ." may be finished by adding "felt good" or "won the game" or "told her friend" or "wanted to score another" or something like that.

The score you get depends on how quickly you finish the sentences. Work fast. *Do not skip any sentences.*

This is a speed test. Work fast. Do not skip any sentences.

1. The thing Mary liked to do best in her spare time was .....
2. After Florence finished talking she thought that she .....
3. Barbara thinks most politicians are .....
4. When Joan thought the job was too much for her, she .....
5. What Dot disliked most about her family was .....
6. When Alice saw Negroes moving in next door, she .....
7. When they asked Elizabeth to be in charge, she .....
8. Ruth sometimes thought her father was .....
9. When Marge heard she would have to join a union in her new job, she .....
10. Kate often thinks of herself as a .....
11. When Anne's new friend said she was against God, Anne .....
12. When they put a Negro forelady over her, Edna .....
13. The reason Lillian tried to get ahead was .....
14. Nancy believes most people think of her as .....
15. When they tried to get Margaret to be like her mother, she .....
16. When Janet had something to say and others were around, she .....
17. When Jane saw the doctor they were trying to give her was a Negro, she .....
18. According to Irene, if a person remains poor it is because .....
19. When they asked Louise what nations the U. S. could trust, she said .....
20. Like most girls, Betty sometimes thinks her family is .....
21. Most jobs with responsibility made Nora feel .....
22. From past experience, Gail felt most people were .....
23. When Jean saw her younger sister dancing with a Negro, she .....
24. When Connie was asked whether she could ever see herself voting Socialist, she said .....
25. Above all else, Mary wished her father were .....

26. When the man running for mayor admitted he did not believe in God, Joan decided .....

27. After Madeleine finished the test, she thought that she .....

28. If Ruth's mother could change things she would try to .....

29. When Alice saw others doing better than she, Alice .....

30. When Janice discovered the school she was planning to enter was half Negro, she .....

31. Jane feels most people who meet her for the first time think she is .....

32. Betty thinks the things that make a person work hardest are .....

33. Dorothy believed most labor leaders are .....

34. As between mother's and father's ways Liz usually chose .....

35. When her favorite beauty shop began being used by Negroes, Barbara .....

36. Lillian feels most persons holding high public office are .....

37. Rosalind sometimes thought her father .....

38. Edith often felt like .....

39. When told she would have to do the whole thing by herself, Ruth .....

40. Peggy feels most people don't reach their goals because of .....

41. When Negroes began being admitted to the club, Ethel decided .....

42. Joan believes her family thinks she is .....

43. If Marge had any children, the one thing she would surely do for them is .....

44. When Nan thought the odds were against her, she .....

45. Dot would do anything in order to be .....

46. When the boss began hiring many Negroes, Evelyn .....

47. Estelle's feeling about most labor unions was that they .....

48. If Jean's father could change, Jean would want him to be .....

49. Mary believes most Russians want .....

50. From past experience, no matter what others thought, Peg herself knew that she .....

51. When they put a Negro to work next to her, Gail decided .....

52. Working with others all the time made Jane .....

53. When she was asked her opinion of public ownership, Kate said .....

54. Joan's fondest ambition was to become a .....

55. Every time they didn't invite Betty to the party, she .....

56. When Edith saw a Negro and a white involved in the accident, she naturally blamed the .....

57. When she found out the candidate belonged to a different religion, Ruth decided .....

58. Before the game started Alice felt her side would .....

59. If there is one group in the U. S. that can't be trusted, Isobel thought it was .....

The Personal and Social Attitudes Record

For the use of schools, colleges, and records offices

Form III M-F

No. .....

Name .....

Age .....Sex ..... Male .....Female

School or Office .....

Education .....

Date .....

The office would like to have in its files a record of your personal and social attitudes—that is, your atittudes toward politics, responsibility, parents, minority groups, race prejudice, etc.

Complete each of the statements by writing in what best applies in your case.

Consider each statement carefully. There is no time limit. *What you write in will represent the record of your personal and social attitudes.*

Do not skip any sentences.

1. When I think the job is too much for me, I tend to .....

2. I think most politicians are .....

3. If I heard I would have to join a union in a new job, I would .....

4. If I saw Negroes moving in next door, I would .....

5. When I am asked to be in charge, I generally tend to .....

6. The reason I try to get ahead is that I want to .....

7. If I saw the doctor they were trying to give me was a Negro, I would .....

8. Most jobs with responsibility make me feel .....

9. If I have something to say and others are around, I .....

10. If I saw my younger sister dancing with a Negro, I would—(If you don't have a younger sister, answer as if you did.) .....

11. If I were asked whether I could ever see myself voting Socialist, I would say: .....

12. After I finish a test I usualy think that I have .....

13. If the man running for mayor admitted he did not believe in God, I would decide .....

14. I believe most people think of me as .....

15. I believe most labor leaders are .....

16. If I discovered the school I was planning to enter was half Negro, I would .....

17. As between mother's and father's ways, I choose .....

18. According to me, if a person remains poor it is because .....

19. If the boss began hiring many Negroes, I would .....

20. If I had any children, the one thing I would surely do for them is .....

21. I often feel like .....

22. When I am asked my opinion of public ownership, I say .....

23. If I see a Negro and a white involved in an accident, I naturally blame the .....

24. When I see others doing better than I .....

25. Every time they don't invite me to the party, I tend .....

26. If I found out the candidate belongs to a different religion, I would decide .....

27. If they put a Negro to work next to me, I would .....

28. Working with others all the time makes me .....

29. From past experience, I feel most people are .....

30. I feel most persons holding high public office are .....

31. When I am told I have to do the whole thing by myself .....

32. My feeling about most labor unions is that they are .....

33. If my favorite beauty shop began being used by Negroes, I would .....

34. If they tried to get me to be like Mother, I would .....

35. If a new friend of mine said she was against God, I would .....

36. If they put a Negro forelady over me, I would .....

37. When I think the odds are against me, I tend to .....

38. I often think of myself as .....

39. If Negroes began being admitted to the club, I would decide .....

40. I sometimes think my father is .....

Appendix B

INSTRUMENTS USED IN STUDY II

Form B

.....

The G-W Test of Verbal Speed

Name .....Age .....Grade .....

Directions

This is a test to see how fast you can make sentences. But this is a different kind of test than you have taken before, for in this test there are no wrong answers. In the test you are given the first part of a sentence, and you are to write down the rest of the sentence. The best way to do this is to write down the *first thing* that comes to your mind when you read the beginning of the sentence. Don't worry about spelling, but write as quickly and as clearly as you can.

Example: When John scored a goal, he .....

You could finish this sentence by writing down: *was happy*, or *wanted to score another one*, or *stopped playing and went home*, or some other answer which makes sense.

Do Not Turn This Page Until Your Teacher Tells You to Begin.

1. In his spare time Al likes to .....
2. When he went to the circus, Pete .....
3. When John's sister gets a bigger piece of cake, he .....
4. If the girls try to help Ben when he is hurt, he .....
5. Chuck thinks that most bosses are .....
6. If Jack wasn't invited to the party, he .....
7. When the small boys have something which Eddie wants, he .....
8. When Bill is told to do something by himself, he .....
9. Don sometimes thinks his family .....
10. When he was told that he failed the test, Bob .....
11. If George had to work with girls all the time, he .....
12. When Joe thinks the homework is too hard for him, he .....
13. Whenever they ask Fred to be in charge, he .....
14. Henry sometimes thinks his father .....
15. Frank thinks that kids who always study hard .....
16. When his brother gets a new toy, Roger .....
17. When Ray finds himself alone with a group of important people, he .....
18. If Mike found out that his new friend didn't believe in God, Mike .....
19. When they don't let him do what he wants, Ken .....
20. If Dave was sick and no one came to see him, he .....
21. When Steve has to talk to grown-ups he has never seen before, he .....
22. From past experience Harold thinks that most people .....
23. When Arthur breaks a window while playing, he .....
24. When other people start telling him how to do something, Tim .....
25. When the girls ask Lou to play on their team, Lou .....
26. If Stan saw Negroes moving in next door, he .....
27. When Arthur goes someplace with his whole family, he .....
28. When he sees that others are doing better than he is, Roy .....
29. When Paul has a chance to get even with the boy who cheated him, he .....
30. When another boy hits him, Tom .....
31. When the captain of the team doesn't let Jim play, Jim .....
32. If they began letting Jewish boys into the club, Walter would .....
33. When Charles has to go to the front of the class to explain something, he .....
34. Dick sometimes thinks his mother .....
35. When Jerry thinks that the odds are against him, he .....
36. If the teacher caught Ralph cheating on the test, Ralph .....
37. When Harry sees a Catholic boy and a Protestant boy fighting, he blames .....
38. When a girl asks Carl to help her, Carl .....
39. When Ted can't do something the first time he tries it, he .....
40. When Dan sees that he is heading for a fight, he .....

.....

The G-W Test of Verbal Speed

Name .....Age ..... Grade

Directions

This is a test to see how fast you can make sentences. But this is a different kind of test than you have taken before, for in this test there are no wrong answers. In the test you are given the first part of a sentence, and you are to write down the rest of the sentence. The best way to do this is to write down the *first thing* that comes to your mind when you read the beginning of the sentence. Don't worry about spelling, but write as quickly and as clearly as you can.

Example: When Joan scored a goal, she .....

You could finish this sentence by writing down: *was happy,* or *wanted to score another one,* or *stopped playing and went home,* or some other answer which makes sense.

Do Not Turn This Page Until Your Teacher Tells You to Begin.

1. In her spare time Thelma likes to .....
2. When she went to the circus, Patsy .....
3. When Joan's brother gets a bigger piece of cake, she .....
4. If the boys try to help Betty when she is hurt, she .....
5. Beverly thinks that most bosses are .....
6. If Janet wasn't invited to the party, she .....
7. When the small girls have something which Eva wants, she .....
8. When Judy is told to do something by herself, she .....
9. Dot sometimes thinks her family .....
10. When she was told that she failed the test, Donna .....
11. If Ruth had to work with boys all the time, she .....
12. When Elaine thinks the homework is too hard for her, she .....
13. Whenever they ask Freda to be in charge, she .....
14. Gloria sometimes thinks her father .....
15. Frances thinks that kids who always study hard .....
16. When her sister gets a new toy, Rose .....
17. When Agnes finds herself alone with a group of important people, she .....
18. If Mary found out that her new friend didn't believe in God, Mary .....
19. When they don't let her do what she wants, Kay .....
20. If Nancy was sick and no one came to see her, she .....
21. When Susan has to talk to grown-ups she has never seen before, she .....
22. From past experience Ann thinks that most people .....
23. When Alice breaks a window while playing, she .....
24. When other people start telling her how to do something, Carol .....
25. When the boys ask Louise to play on their team, Louise .....
26. If Stella saw Negroes moving in next door, she .....
27. When Connie goes someplace with her whole family, she .....
28. When she sees that others are doing better than she is, Roberta .....
29. When Paula has a chance to get even with the girl who cheated her, she .....
30. When another girl hits her, Peggy .....
31. When the captain of the team doesn't let Helen play, Helen .....
32. If they began letting Jewish girls into the club, Wilma would .....
33. When Irene has to go to the front of the class to explain something, she .....
34. Jean sometimes thinks her mother .....
35. When Gerry thinks that the odds are against her, she .....
36. If the teacher caught Bea cheating on the test, Bea .....
37. When Barbara sees a Catholic girl and a Protestant girl fighting, she blames .....
38. When a boy asks Marie to help him, Marie .....
39. When Donna can't do something the first time she tries it, she .....
40. When Liz sees that she is heading for a fight, she .....

. . . . . .

The G-W Test for Boys and Girls

Name . . . . . **Age** . . . . . **Grade** . . . . . .

Directions

This is a test to find out how you behave when certain things happen to you. In this test you are given the first part of a sentence, and you are to write down the rest of the sentence. There are no wrong answers in this test, but your answers will tell something about what kind of a boy or girl you are. Don't worry about spelling, and don't waste time. Write as clearly as you can.

Example: When my sister wins, I . . . . . .

One child might write down: *am very happy*. Another child might write: *become angry*. Or a third child might answer: *say she cheated*. The answer which you write should tell what you do when your sister wins.

If you do not have any sisters or brothers, just pretend that you have them when you come to a sentence which talks about brothers and sisters.

Do Not Turn This Page Until Your Teacher Tells You to Begin.

1. In my spare time I like to . . . . . .
2. When I went to the circus, I . . . . . .
3. When my sister gets a bigger piece of cake, I . . . . . .
4. If the girls try to help me when I am hurt, I . . . . . .
5. I think that most bosses are . . . . . .
6. If I wasn't invited to the party, I . . . . . .
7. When the small boys have something which I want, I . . . . . .
8. When I am told to do something by myself, I . . . . . .
9. I sometimes think my family . . . . . .
10. When I was told that I failed the test, I . . . . . .
11. If I had to work with girls all the time, I . . . . . .
12. When I think the homework is too hard for me, I . . . . . .
13. Whenever they ask me to be in charge, I . . . . . .
14. I sometimes think my father . . . . . .
15. I think that kids who always study hard . . . . . .
16. When my brother gets a new toy, I . . . . . .
17. When I find myself alone with a group of important people, I . . . . . .
18. If I found out that my new friend didn't believe in God, I . . . . . .
19. When they don't let me do what I want, I . . . . . .
20. If I was sick and no one came to see me, I . . . . . .
21. When I have to talk to grown-ups I have never seen before, I . . . . . .
22. From past experience I think that most people . . . . . .
23. When I break a window while playing, I . . . . . .
24. When other people start telling me how to do something, I . . . . . .
25. When the girls ask me to play on their team, I . . . . . .
26. If I saw Negroes moving in next door, I . . . . . .
27. When I go someplace with my whole family, I . . . . . .
28. When I see that others are doing better than I am, I . . . . . .
29. When I have a chance to get even with the boy who cheated me, I . . . . . .
30. When another boy hits me, I . . . . . .
31. When the captain of the team doesn't let me play, I . . . . . .
32. If they began letting Jewish boys into the club, I would . . . . . .
33. When I have to go to the front of the class to explain something, I . . . . . .
34. I sometimes think my mother . . . . . .
35. When I think that the odds are against me, I . . . . . .
36. If the teacher caught me cheating on the test, I . . . . . .
37. When I see a Catholic boy and a Protestant boy fighting, I blame . . . . . .
38. When a girl asks me to help her, I . . . . . .
39. When I can't do something the first time I try it, I . . . . . .
40. When I see that I am heading for a fight, I . . . . . .

Form IG

.....

The G-W Test for Boys and Girls

Name .....Age .....Grade .....

Directions

This is a test to find out how you behave when certain things happen to you. In this test you are given the first part of a sentence, and you are to write down the rest of the sentence. There are no wrong answers in this test, but your answers will tell something about what kind of a boy or girl you are. Don't worry about spelling, and don't waste time. Write as clearly as you can.

Example: When my sister, wins, I .....

One child might write down: *am very happy*. Another child might write: *become angry*. Or a third child might answer: *say she cheated*. The answer which you write should tell what you do when your sister wins.

If you do not have any sisters or brothers, just pretend that you have them when you come to a sentence which talks about brothers and sisters.

Do Not Turn This Page Until Your Teacher Tells You to Begin.

1. In my spare time I like to .....
2. When I went to the circus, I .....
3. When my brother gets a bigger piece of cake, I .....
4. If the boys try to help me when I am hurt, I .....
5. I think that most bosses are .....
6. If I wasn't invited to the party, I .....
7. When the small girls have something which I want, I .....
8. When I am told to do something by myself, I .....
9. I sometimes think my family .....
10. When I was told that I failed the test, I .....
11. If I had to work with boys all the time, I .....
12. When I think the homework is too hard for me, I .....
13. Whenever they ask me to be in charge, I .....
14. I sometimes think my father .....
15. I think that kids who always study hard .....
16. When my sister gets a new toy, I .....
17. When I find myself alone with a group of important people, I .....
18. If I found out that my new friend didn't believe in God, I .....
19. When they don't let me do what I want, I .....
20. If I was sick and no one came to see me, I .....
21. When I have to talk to grown-ups I have never seen before, I .....
22. From past experience I think that most people .....
23. When I break a window while playing, I .....
24. When other people start telling me how to do something, I .....
25. When the boys ask me to play on their team, I .....
26. If I saw Negroes moving in next door, I .....
27. When I go someplace with my whole family, I .....
28. When I see that others are doing better than I am, I .....
29. When I have a chance to get even with the girl who cheated me, I .....
30. When another girl hits me, I .....
31. When the captain of the team doesn't let me play, I .....
32. If they began letting Jewish girls into the club, I would .....
33. When I have to go to the front of the class to explain something, I .....
34. I sometimes think my mother .....
35. When I think that the odds are against me, I .....
36. If the teacher caught me cheating on the test, I .....
37. When I see a Catholic girl and a Protestant girl fighting, I blame .....
38. When a boy asks me to help him, I .....
39. When I can't do something the first time I try it, I .....
40. When I see that I am heading for a fight, I .....